

Claims:

PITCH & ROLL

1. A device for performing a surgical procedure, comprising.
an elongated handle;
5 a pair of closeable jaws on a distal portion of the handle;
means on at least one of the jaws for ablative treatment of tissue;
means for closing the jaws on tissue; and
means for adjusting roll and pitch of the pair of jaws relative to the handle.
- 10 2. The device according to claim 1 wherein roll is manually adjustable.
3. The device according to claim 2 also comprising means for retaining a selected roll position such that the jaws can be closed on tissue without changing the selected roll position.
15 4. The device according to claim 2 also comprising means for retaining a selected roll position such that the jaws can be opened from a closed position without changing the selected roll position.
- 20 5. The device according to claim 1 wherein pitch is manually adjustable.
6. The device according to claim 5 also comprising means for retaining a selected pitch position such that the jaws can be closed on tissue without changing the selected pitch position.
25 7. The device according to claim 5 also comprising means for retaining a selected pitch position such that the jaws can be opened from a closed position without changing the selected pitch position.
- 30 8. The device according to claim 3 wherein the means for retaining the selected roll position includes at least one detent.

9. The device according to claim 8 wherein the means for retaining the selected roll position includes spring means biasing the detent.

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10. The device according to claim 6 wherein the means for retaining the selected pitch position includes at least one detent.

11. The device according to claim 10 wherein the means for retaining the selected pitch position includes spring means biasing the detent.

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12. The device according to claim 1 wherein the range of adjustment of pitch is at least about 90 degrees.

13. The device according to claim 1 wherein the jaws may be closed on tissue in a pre-selected curved or straight configuration.

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14. The device according to claim 13 wherein each of the jaws are manually shapeable.

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15. The device according to claim 14 wherein each of the jaws include at least one malleable component.

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16. The device according to claim 1 wherein the handle has a proximal longitudinal axis and a distal longitudinal axis, the distal longitudinal axis laterally offset from the proximal longitudinal axis.

17. The device according to claim 16 wherein the handle has an "S" shape.

18. The device according to claim 1 wherein the means for closing the jaws includes a trigger mounted on the handle.

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19. The device according to claim 1 wherein the means for closing the jaws includes a lock mounted on the handle that holds the jaws in a selected relative position.

20. The device according to claim 19 wherein the lock is engaged by means of at least one detent.

5 21. The device according to claim 1 wherein the means for closing the jaws includes a means for limiting the force applied to tissue by the jaws.

22. The device according to claim 21 wherein the means for limiting force includes spring means coupling the trigger and at least one of the jaws.

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23. The device according to claim 1 wherein the means for closing the jaws includes a trigger coupled to at least one of the jaws by means providing progressively greater control of jaw movement as the jaws close.

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24. The device according to claim 23 wherein the means providing progressively greater control of jaw movement includes a link arm.

20 25. The device according to claim 1 wherein the means for closing the jaws includes means for closing a first, upper jaw of the pair of jaws while maintaining the second, lower jaw of the pair of jaws in a stationary position.

26. The device according to claim 25 wherein a trigger is operatively coupled to the upper jaw and not the lower jaw.

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27. The device according to claim 1 wherein the means for ablative treatment of tissue includes a fluid channel.

28. The device according to claim 1 wherein the means for ablative treatment of tissue includes an electrode.

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29. A device for performing a surgical procedure, comprising.
an elongated handle;

a pair of closeable jaws on a distal portion of the handle;
means on the jaws for ablative treatment of tissue;
means for closing the jaws on tissue, including a movable trigger; and
means for locking the trigger in a selected position

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30. The device according to claim 29 wherein the means for locking the trigger comprises a slide coupled to a trigger lock.

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31. The device according to claim 30 wherein the trigger lock comprises at least one detent.

32. The device according to claim 31 wherein the detent comprises a ramped tooth engagable with a series of ramped teeth on the trigger.

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33. The device according to claim 32 wherein the ramped tooth is rotatable into and out of engagement by movement of the slide.

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34. The device according to claim 29 wherein the means for closing the jaws includes at least one tensioning cable.

35. The device according to claim 34 wherein the cable resides within a lubricious tube.

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36. The device according to claim 29 wherein the means for closing the jaws on tissue includes at least one spring means biasing the jaws into an open position.

37. The device according to claim 29 wherein the trigger pivots upwardly into the handle.

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38. The device according to claim 29 wherein the jaws may be closed on tissue in a pre-selected curved or straight configuration.

39. The device according to claim 38 wherein each of the jaws are manually shapeable.

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40. The device according to claim 39 wherein each of the jaws include at least one malleable component.

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41. The device according to claim 29 wherein the handle has a proximal longitudinal axis and a distal longitudinal axis, the distal longitudinal axis laterally offset from the proximal longitudinal axis.

42. The device according to claim 41 wherein the handle has an "S" shape.

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43. The device according to claim 29 wherein the means for closing the jaws includes a means coupled to the trigger for limiting the force applied to tissue by the jaws.

44. The device according to claim 43 wherein the means for limiting force includes a spring.

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45. The device according to claim 29 wherein the trigger is coupled to at least one of the jaws by means providing progressively greater control of jaw movement as the jaws close.

46. The device according to claim 45 wherein the means providing progressively greater control of jaw movement includes a link arm.

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47. The device according to claim 29 wherein the means for closing the jaws includes means for closing a first, upper jaw of the pair of jaws while maintaining the second, lower jaw of the pair of jaws in a stationary position.

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48. The device according to claim 47 wherein a trigger is operatively coupled by means of a cable to the upper jaw and the lower jaw.

49. The device according to claim 29 wherein the means for ablative treatment of tissue includes a fluid channel.

5 50. The device according to claim 29 wherein the means for ablative treatment of tissue includes an electrode.

51. A device for performing a surgical procedure, comprising.
a handle;
at least one conductor affixed to the handle by a translucent strain relief, the
10 conductor coupled to an energy source for ablative treatment of tissue; and
a light emitter, optically coupled to the strain relief such that light emitted
illuminates the strain relief.

15 52. A device according to claim 52 wherein the energy source is an electrosurgical generator.

53. A device according to claim 51 further comprising at least one electrode coupled to the handle.

20 54. A device according to claim 51 further comprising means for activating the light emitter as ablative energy is applied to the conductor.

55. A device for performing a surgical procedure, comprising.
an elongated handle carrying first and second opposed jaws on a distal portion
25 thereof;

a first fluid conduit extending from within a portion of the handle to the first jaw;

a second fluid conduit extending from within a portion of the handle to the second jaw;

30 a first flow regulation device in communication with the first fluid conduit and sized to provide even fluid delivery through the first fluid conduit at a predetermined rate to the first jaw; and

a second flow regulation device in communication with the second fluid conduit and sized to provide even fluid delivery through the second fluid conduit at the predetermined rate to the second jaw.

5 56. A device according to claim 55 further comprising a third fluid conduit extending within a portion of the handle adapted to deliver fluid to the first and second fluid conduits.

10 57. A device according to claim 56 further comprising a third flow regulator in communication with the third fluid conduit and sized to regulate the rate of fluid delivery from the third fluid conduit to the first and second fluid conduits.

 58. A device according to claim 55 further comprising means on the handle for interrupting flow of fluid through the first and second fluid conduits.

15 59. A device according to claim 58 wherein the means for interrupting flow of fluid includes a trigger mounted on the handle.

20 60. A device according to claim 59 wherein the flow of fluid is interrupted when the trigger is released.

 61. A device according to claim 58 wherein the first and second fluid conduits comprise lengths of flexible tubing, and the means for interrupting flow of fluid includes means for pinching the first and second fluid conduits.

25 62. A method for performing a surgical procedure, comprising.
 providing a device having an elongated handle and a pair of jaws on a distal portion of the handle;
 adjusting at least one of roll and pitch of the pair of jaws to a selected roll position and a selected pitch position;
30 introducing the distal portion of the device into a surgical incision:
 placing a portion of tissue between the pair of open jaws;
 closing the jaws into contact with the portion of tissue;

performing an ablative treatment on the portion of tissue; and
opening the jaws.

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63. The method according to claim 62 wherein adjusting roll of the pair of jaws is performed manually.

64. The method according to claim 62 wherein adjusting pitch of the pair of jaws is performed manually.

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65. The method according to claim 62 wherein adjusting roll includes actuating at least one detent.

66. The method according to claim 62 wherein adjusting pitch includes actuating at least one detent.

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67. The method according to claim 62 further comprising manually shaping the jaws into a pre-selected curved or straight configuration.

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68. The method according to claim 62 further comprising locking the position of the closed jaws on the portion of tissue as the ablative treatment is performed and releasing the lock prior to opening the jaws.

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69. The method according to claim 62 wherein closing the jaws includes closing a first, upper jaw of the pair of jaws while maintaining the second, lower jaw of the pair of jaws in a stationary position.

70. The method according to claim 62 wherein performing an ablative treatment of tissue includes introducing a fluid to the tissue by means of the jaws.

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71. The method according to claim 62 wherein performing an ablative treatment of tissue includes activating at least one electrode on the jaws.

72. The method according to claim 62 further comprising the step of manually shaping the pair of jaws to form a lateral bend along the lengths thereof selected to facilitate placing a portion of tissue between the pair of open jaws